

**TABLE OF CONTENTS- APPENDICES
R645-301-300 CHAPTER 3**

APPENDIX NUMBER	DESCRIPTION
APPENDIX 3-1	Plant Communities of the West Ridge Project Mine Area
APPENDIX 3-1A	Douglas Fir/Maple Community Reference Area (New): West Ridge Project Mine Area
APPENDIX 3-2	West Ridge Project Raptor Survey
APPENDIX 3-2B	2008 Raptor Survey, DWR
APPENDIX 3-3	Wildlife Inventory
APPENDIX 3-4	Correspondence - Threatened and Endangered Species
APPENDIX 3-4A	Updated T & E Species List (2002)
APPENDIX 3-4B	Updated T & E Species List (2008), Mt. Nebo Scientific
APPENDIX 3-5	Plant Communities of the West Ridge Project Proposed Topsoil Borrow Area
APPENDIX 3-6	Comments from DWR
APPENDIX 3-7	Letter from DWR regarding eagle nests
APPENDIX 3-8	Nonvascular Plant Cover of the Douglas Fir/Rocky Mtn. Juniper Community at the West Ridge Project 1998
APPENDIX 3-9	Letter from DWR regarding Mexican spotted owl
APPENDIX 3-10	Letter from DWR regarding 2001 Raptor Survey
APPENDIX 3-11	Letter from DWR regarding Yellow-Billed Cuckoo
APPENDIX 3-12	A Survey of the Riparian Plant Communities near Grassy Trail Creek for the West Ridge Mine (Mt. Nebo Scientific)
APPENDIX 3-13	Vegetation of the Bear Canyon GVH Site (Mt. Nebo Scientific)

- d) *The appropriate seed mix (Table 3-2B, for Douglas Fir/Maple Community) will be either broadcast by hand or hydroseeded on the area at the rate specified on the table. (Table 3-2B is reprinted in Attachment 13 for ready reference.)*
- e) *A certified noxious weed-free straw mulch will be applied to the surface at a rate of 2000 pounds per acre and held to the surface with a wood fiber mulch and tackifier applied to the surface at a rate of 500 pounds per acre.*

The revegetation monitoring schedule for the Bear Canyon GVH site will be the same as for the minesite reclamation, and is reprinted in Table 3-4 in Attachment 13 of Appendix 5-14 for ready reference.

Revegetation success standards for the GVH site will be the same as for the C Canyon minesite, as presented in R645-341.250. The revegetation timetable for the GVH site will also be the same as the minesite, as presented in Table 3-1, reprinted in Attachment 13 of Appendix 5-14 for ready reference.

There are no threatened or endangered species in the Bear Canyon GVH area. **Refer to Appendix 3-4B for current (2008) T&E information.** Various species of concern during previous amendments, such as the Mexican Spotted Owl and the Yellow-Billed Cuckoo have been adequately addressed in the presently approved MRP and are not a factor.

An annual raptor survey was conducted for the permit area, including Bear Canyon, by Division of Wildlife Resources (DWR) in the spring of 2008, and is included in Appendix 3-2B, and also in Attachment 5 of Appendix 5-14. The survey shows no raptor nests in the Bear Canyon area, neither at the GVH site nor the topsoil storage area.

As shown on Maps 3-4A, 3-4B and 3-4C, wildlife range for deer, elk, and antelope is basically the same at the GVH site as for the minesite, which is to be expected given their proximity and many similarities.

There will be no additional water consumption, nor disruption of flow, from the West Ridge Mine as a result of the GVH installation. Therefore, construction and operation of the GVH facility will have no affect on the Colorado River Endangered Fish Recovery Program.

APPENDIX 3-4B

**UPDATED (2008)
THREATENED AND ENDANGERED SPECIES**

MT. NEBO SCIENTIFIC

RECEIVED

DEC 03 2008

DIV. OF OIL, GAS & MINING



MT NEBO SCIENTIFIC, INC.

research & consulting

October 29, 2008

Dave Shaver
ANDALEX RESOURCES
P.O. Box 902
Price, Utah 84501

Dear Mr. Shaver:

In conversations with Joe Helfrich from the State of Utah, Division of Oil, Gas & Mining (DOGM), it was brought to my attention that more information is needed regarding potential threatened and endangered species within the proposed Bear Canyon GVH study site. Accordingly, I have prepared a table with the federally listed threatened, endangered and candidate plant and animal species for Carbon County, Utah (attached). The table also includes information about each species, their habitats and possible impacts (if any) that could occur as a result of construction of the proposed GVH site.

Additional information regarding sensitive species can be found in my report called:

Vegetation of the
GVH Site in
Bear Canyon,
Book Cliffs, Utah

for the
West Ridge Mine,
Carbon County, Utah
(October 2008)

Please call me if you have any questions or comments. Furthermore, biologists from DOGM may also call me regarding our studies in Bear Canyon.

Sincerely,

Patrick D. Collins, Ph.D.
Biologist/Environmental Consultant

RECEIVED

OCT 30 2008

DIV. OF OIL, GAS & MINING

Federally listed threatened, endangered & candidate species in Carbon County, Utah
and notes regarding potential impacts as a result of the Bear Canyon GVH site.

Scientific Name	Common Name	Status*	Site-Specific Notes
<i>Empidonax traillii extimus</i>	Southwestern willow flycatcher	E	<p>This species breeds in southwestern U.S. and winters in southern Mexico and Central America. It is a rare visitor of southern Utah. Its habitat is primarily riparian, most frequently occurring in dense willow stands.</p> <p>Although near a drainage, a well-defined riparian habitat is non-existent in the Bear Canyon study area.</p> <p>There should be no impacts to this species as a result of the Bear Canyon GVH site.</p>
<i>Gila cypha</i>	Humpback chub	E	<p>Humpback chub in Utah are now confined to a few white-water areas in the Colorado, Green, and White Rivers.</p> <p>These rivers do not occur in Bear Canyon study area. The drainage control measures of the site limit impacts to the downstream drainage of the Colorado River system.</p> <p>There should be no impacts to this species as a result of the Bear Canyon GVH site.</p>
<i>Gila elegans</i>	Bonytail	E	<p>The bonytail is a very rare minnow originally native to the Colorado River system.</p> <p>These rivers do not occur in Bear Canyon study area. The drainage control measures of the site limit impacts to the downstream drainage of the Colorado River system.</p> <p>There should be no impacts to this species as a result of the Bear Canyon GVH site.</p>
<i>Mustela nigripes</i>	Black-footed ferret	Ex	<p>Black-footed ferret habitat is primarily prairie grasslands. The ferret has a diet consisting of almost 90% prairie dogs. This habitat and food source does not occur in the study area.</p> <p>There should be no impacts to this species as a result of the Bear Canyon GVH site.</p>
<i>Phacelia argillacea</i>	Clay phacelia	E	<p>The habitats of clay phacelia are usually found in pinyon-juniper and mountain brush plant communities, and typically in clay soils of the Green River formation.</p> <p>Although these plant communities occur near the study area, they are not within the area proposed for disturbance. Furthermore, the geologic formations of the study area are well below the Green River formation in geologic strata.</p> <p>There should be no impacts to this species as a result of the Bear Canyon GVH site.</p>

Federally listed threatened, endangered & candidate species in Carbon County, Utah
and notes regarding potential impacts as a result of the Bear Canyon GVH site.

<i>Ptychocheilus lucius</i>	Colorado pikeminnow	E	<p>The Colorado pikeminnow is a fish that prefers medium to large rivers. With the loss of habitat they are now restricted to the upper Colorado River system.</p> <p>These rivers do not occur in Bear Canyon study area. The drainage control measures of the site limit impacts to the downstream drainage of the Colorado River system.</p> <p>There should be no impacts to this species as a result of the Bear Canyon GVH site.</p>
<i>Sclerocactus glaucus</i>	Uinta Basin hookless cactus	T	<p><i>Sclerocactus glaucus</i> generally occurs on cobbly, gravelly, or rocky surfaces on river terrace deposits along the White and Green Rivers of Utah..</p> <p><i>S. glaucus</i> occurs on varying exposures, but is more abundant on south facing exposures, and on slopes to about 30 percent grade; it is most abundant at the point where terrace deposits break from level tops to steeper side slopes.</p> <p>Plant communities and species associated with this species are bud sage, shadscale, black sagebrush and horsebrush.</p> <p>These plant communities nor habitats associate with them occur in the study area, therefore, there should be no impacts to this species as a result of the Bear Canyon GVH site.</p>
<i>Xyrauchen texanus</i>	Razorback sucker	E	<p>This species prefers slow backwater habitats and impoundments in the Colorado River system. Utah Division of Wildlife Resources distribution maps of this species for Carbon County shows to occur near the Green River in extreme eastern portion of the county.</p> <p>These rivers do not occur in Bear Canyon study area. The drainage control measures of the site limit impacts to the downstream drainage of the Colorado River system.</p> <p>There should be no impacts to this species as a result of the Bear Canyon GVH site.</p>

* Status
C = Candidate
E = Endangered
T = Threatened
Ex = Extirpated

RECEIVED

NOV 3 2003

DIV. OF OIL, GAS & MINING